Division of Air Quality 601 57<sup>th</sup> Street SE Charleston, WV 25304 Phone (304) 926-0475 Fax (304) 926-0479



Jim Justice, Governor Austin Caperton, Cabinet Secretary www.dep.wv.gov

west virginia department of environmental protection

# G70-D GENERAL PERMIT ENGINEERING EVALUATION EVENTION AND CONTROL OF AIR POLLUTION IN REGARD TO THE CONSTRUCTION, MODIFICATION

RELOCATION, ADMINISTRATIVE U	INLIE	N REGARD TO THE CO RATION OF NATURAI THE WELL SITE	ONSTRUCTION, MODIFICATION, L GAS PRODUCTION FACILITIES
APPLICATION NO.: G70-		FACILITY ID	: 017-00043
☐ CONSTRUCTION ☑ MODIFICATION ☐ RELOCATION		CLASS I AI	DMINISTRATIVE UPDATE DMINISTRATIVE UPDATE
I	BACKGROUND	INFORMATION	
Name of Applicant (as registered v Company	with the WV Sec	retary of State's Off	ice): EQT Production
Federal Employer ID No. (FEIN):	25-0724685		
Applicant's Mailing Address: 625	Liberty Avenue	Suite 1700	
City: Pittsburgh	State: PA	, outle 1700	7ID C. 1 45000
Facility Name: OXF-115 Wellpad			ZIP Code: 15222
Operating Site Physical Address: S If none available, list road, city or	traight Fork	facility.	
City: New Milton	Zip Code: 264	11	County: Doddridge
Latitude & Longitude Coordinates ( Latitude: 39.144750 Longitude: -80.80653	(NAD83, Decima	al Degrees to 5 digits	s):
SIC Code: 1311 NAICS Code: 211111		Date Application Re January 17, 2016	eceived:
Fee Amount: \$1,500.00		Date Fee Received:	February 3, 2017
Applicant Ad Date: February 17, 2	2017	Newspaper: The Doddridge Independent	
Date Application Complete: March	10, 2017	Due Date of Final Action: April 25, 2017	
Engineer Assigned: Roy F. Kees, F	P.E.		
Description of Permitting Action: G production well pad and installati	eneral permit a on of one (1) 40	pplication for an ex 30 barrel condensa	xisting natural gas ite liquid tank.

#### PROCESS DESCRIPTION

The following process description was taken from Registration Application G70-D232:

EQT is submitting this application to permit the installation of one (1) 400 bbl condensate tank to replace the existing four (4) condensate 210 bbl storage tanks at the wellpad. The OXF-115 wellpad is currently authorized to operate under R13-3021.

The project involves the construction and operation of support facilities associated with a natural gas production wellpad operation. The OXF115 wellpad consists of one well. The incoming gas stream from the underground well passes through a separator, which will separate gas (natural gas from the separator is sent to the sales line) from liquids (condensate and produced water). The liquids are then transferred to the produced fluids tanks. Once the tank is filled, the contents are loaded into trucks for transport. Electricity is provided by a thermoelectric generator.

#### SITE INSPECTION

Site Inspection Date: December 11, 2012

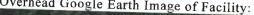
Site Inspection Conducted By: Steve Pursley

Results of Site Inspection: The nearest residence is located at the intersection of Straight Fork Road and the access road approximately one mile from the pad as the crow flies.

Did Applicant meet Siting Requirements? Yes

If applicable, was siting criteria waiver submitted? N/A

Directions to Facility: I-79 to the Clarksburg exit 119. Turn onto Rt. 50 West and go 31.5 miles to Sunnyside Road. Turn left onto Sunnyside road and go 1.7 miles to Oxford Road (Rt.21). Turn left and go 5.3 miles and turn left onto Taylor Drain Road. Go 4.1 miles to a Y intersection and turn right. Go 1.2 miles and turn left through concrete bridge onto Straight Fork. Go 1.5 miles to lease road on the left. Go 9/10m mile to top of the hill and bear left past old pit road, continue approx. 800ft. to the pad. Overhead Google Earth Image of Facility:





## ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

The following table indicates which methodology was used in the emissions determination:

	Drogge Faring	
Emission	Process Equipment	Calculation Methodology
Unit ID#		(e.g. ProMax, GlyCalc, mfg.
S005	Thermoelectric Generator	data, AP-42, etc.)
S006	Liquids Loading	AP-42
S007	Produced Fluids Tank	AP-42
2007	Troduced Fluids Lank	Promax & Tanks

The total facility PTE for the facility (including fugitive emissions) is shown in the following table:

Pollutant	Facility Wide PTE (tons/year)	PTE Change for Modification (tons/year)
Nitrogen Oxides	0.01	(could)
Carbon Monoxide	0.00	
Volatile Organic Compounds	3.15	
Particulate Matter	0.09	
Particulate Matter-10/2.5	0.09	
Sulfur Dioxide	0.00	
Formaldehyde	0.00	
Total HAPs	0.10	
Carbon Dioxide Equivalent	67.98	

Maximum detailed controlled point source emissions were calculated by the applicant and checked for accuracy by the writer and are summarized in the table on the next page.

APPLICANT: EQT Production Company	VT: EQ	T Produc	tion Com	pany	FA	FACILITY NAME: OXE-115 Pad	LY NA	ME: o	XF-115	Pad	the state of the s			
		2			-					an			G/U-D232	232
Emission Point ID#		INOx	)	00	>	VOC	Š	$SO_2$	PI	PM <sub>10</sub>	PN	PM <sub>2.5</sub>	CHC	GHG (CO.e)
1	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	Ib/hr	thv	114/14		7 11	L		(2026)
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APPLICANT: EQT Production Company	VT: EQ	T Produc	tion Com	bany	FA	FACILITY NAME: OXE-115 Pad	FY NA	ME:	XE-114	200			6	
	L. Commercial	14-1-1							611-10	au			G/0-D232	232
Emission Point ID#	FOILING	romainenyde	Ben	Benzene	Tol	Toluene	Ethylb	Ethylbenzene	Xyl	Xylenes	He	Hexane	Tots	Total HADs
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#### REGULATORY APPLICABILITY

## 45CSR2 (Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers)

The purpose of 45CSR2 (Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers) is to establish emission limitations for smoke and particulate matter which are discharged from fuel burning units.

45CSR2 states that any fuel burning unit that has a heat input under ten (10) MMBTU/hr is exempt from Sections 4 (weight emission standard), 5 (control of fugitive particulate matter), 6 (registration), 8 (testing, monitoring, recordkeeping, reporting) and 9 (startups, shutdowns, malfunctions). However, a failure to attain acceptable air quality in parts of some urban areas may require the mandatory control of these sources at a later date. If the individual heat input of all of the proposed fuel burning units are below 10 MMBTU/hr, these units are exempt from the aforementioned sections of 45CSR2. However, the registrant would be subject to the opacity requirements in 45CSR2, which is 10% opacity based on a six minute block average. Fuel burning units greater than 10 MMBTU/hr are ineligible for registration under General Permit G70-D

Emission Unit ID#	Emission Unit Description	Maximum Design Heat Input (MDHI) (MMBTU/hr)
S005	Thermoelectric Generator	0.013

### 45CSR6 (To Prevent and Control Air Pollution from the Combustion of Refuse)

45CSR6 prohibits open burning, establishes emission limitations for particulate matter, and establishes opacity requirements. Sources subject to 45CSR6 include completion combustion devices, enclosed combustion devices, and flares.

The facility-wide requirements of the general permit include the open burning limitations §§45-6-3.1 and 3.2.

All completion combustion devices, enclosed combustion devices, and flares are subject to the particulate matter weight emission standard set forth in §45-6-4.1; the opacity requirements in §45-6-4-3 and 4-4; the visible emission standard in §45-6-4.5; the odor standard in §45-6-4.6; and, the testing standard in §45-6-7.1 and 7.2.

Enclosed combustion control devices and flares that are used to comply with emission standards of NSPS, Subpart OOOO are subject to design, operational, performance, recordkeeping and reporting requirements of the NSPS regulation that meet or exceed the requirements of 45CSR6.

Emission Unit ID#	Maximum Design Heat Input (MDHI) (MMBTU/hr)	Subject to Weight Emission Standard?	Control Efficiency Claimed by Registrant	Provide Justification how 45CSR6 is met.
N/A		□ Yes □ No		

### 45CSR10 (To Prevent and Control Air Pollution from the Emission of Sulfur Oxides)

45CSR10 establishes emission limitations for SO<sub>2</sub> emissions which are discharged from stacks of fuel burning units. A "fuel burning unit" means and includes any furnace, boiler apparatus, device, mechanism, stack or structure used in the process of burning fuel or other combustible material for the primary purpose of producing heat or power by indirect heat transfer. Sources that meet the definition of "Fuel Burning Units" per 45CSR10-2.8 include GPUs, inline heaters, heater treaters, and glycol dehydration unit reboilers.

Fuel burning units less than 10 MMBtu/hr are exempt. The sulfur dioxide emission standard set forth in 45CSR10 is generally less stringent than the potential emissions from a fuel burning unit for natural gas. The SO<sub>2</sub> emissions from a fuel burning unit will be listed in the G70-D permit registration at the discretion of the permit engineer on a case-by-case basis. Issues such as non-attainment designation, fuel use, and amount of sulfur dioxide emissions will be factors used in this determination. Fuel burning units greater than 10 MMBTU/hr are ineligible for registration under General Permit G70-D

Fuel burning units burning natural gas are exempt from Section 8 (Monitoring, Recording and Reporting) as well as interpretive rule 10A. The G70-D eligibility requirements exclude from eligibility any fuel burning unit that does not use natural gas as the fuel; therefore, there are no permit conditions for 45CSR10.

Emission Unit ID#	Emission Unit Description	Maximum Design Heat Input (MDHI) (MMBTU/hr)
S005	Thermoelectric Generator	0.013

45CSR13 (Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation)

45CSR13 applies to this source due to the fact that the applicant is defined as a "stationary source" under 45CSR13 Section 2.24.b. Stationary source means, for the purpose of this rule, any building, structure, facility, installation, or emission unit or combination thereof, excluding any emission unit which meets or falls below the criteria delineated in Table 45-13B which: (a) is subject to any substantive requirement of an emission control rule promulgated by the Secretary; (b) discharges or has the potential to discharge more than six (6) pounds per hour and ten (10) tons per year, or has the potential to discharge more than 144 pounds per calendar day, of any regulated air pollutant; (c) discharges or has the potential to discharge more than two (2) pounds per hour or five (5) tons per year of hazardous air pollutants considered on an aggregated basis; (d) discharges or has the potential to discharge any air pollutant(s) listed in Table 45-13A in the amounts shown in Table 45-13A or greater; or, (e) an owner or operator voluntarily chooses to be subject to a construction or modification permit pursuant to this rule, even though not otherwise required to do so. 45CSR13 has an original effective date of June 1, 1974.

The applicant meets the definition of a stationary source because (check all that apply):

Subject to a substantive requirement of an emission control rule promulgated by the Secretary.

Discharges or has the potential to discharge more than six (6) pounds per hour and ten (10) tons per year, or has the potential to discharge more than 144 pounds per calendar day, of any regulated air pollutant.

Discharges or has the potential to discharge more than two (2) pounds per hour or five (5) tons per year of hazardous air pollutants considered on an aggregated basis.

Discharges or has the potential to discharge any air pollutant(s) listed in Table 45-13A in the amounts shown in Table 45-13A or greater.

Voluntarily chooses to be subject to a construction or modification permit pursuant to this rule, even though not otherwise required to do so.

General Permit G70-D Registration satisfies the construction, modification, relocation and operating permit requirements of 45CSR13. General Permit G70-D sets forth reasonable conditions that enable eligible registrants to establish enforceable permit limits.

Section 5 of 45CSR13 provides the permit application and reporting requirements for construction of and modifications to stationary sources. No person shall cause, suffer, allow or permit the construction, modification, relocation and operation of any stationary source to be commenced without notifying the Secretary of such intent other applicable rule promulgated by the Secretary.

If applicable, the applicant meets the following (check all that apply):
Relocation Modification Class I Administrative Update (45CSR13 Section 4.2.a) Class II Administrative Update (45CSR13 Section 4.2.b)
45CSR16 (Standards of Performance for No. 1971)
45CSR16 (Standards of Performance for New Stationary Sources Pursuant to 40 CFR Part 60)
45CSR16 applies to all registrants that are subject to any of the NSPS requirements described in more detail in the Federal Regulations section. Applicable requirements of NSPS, Subparts IIII, JJJJ and OOOO are included in General Permit G70-D.
The applicant is subject to:  40CFR60 Subpart IIII  40CFR60 Subpart JJJJ  40CFR60 Subpart OOOO

#### 45CSR22 (Air Quality Management Fee Program)

45CSR22 is the program to collect fees for certificates to operate and for permits to construct or modify sources of air pollution. 45CSR22 applies to all registrants. The general permit fee of \$500 is defined in 45CSR13. In addition to the application fee, all applicants subject to NSPS requirements or NESHAP requirements shall pay additional fees of \$1,000 and \$2,500, respectively.

Registrants are also required to obtain and have in effect a valid certificate to operate in accordance with 45CSR22 §4.1. The fee group for General Permit G70-D is 9M (all other sources) with an annual operating fee of \$200.

# 40CFR60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines)

Subpart IIII sets forth non-methane hydrocarbon (NMHC), hydrocarbon (HC), nitrogen oxides (NOx), carbon monoxide (CO), and particulate matter (PM) emission limits, fuel requirements, installation requirements, and monitoring requirements based on the year of installation of the subject internal combustion engine. The provisions for stationary compression ignition (CI) internal combustion engines for owners or operators of this Subpart have been included in General Permit G70-D, Section 13. The following CI engines are subject to this section:

Emission Unit ID#	Engine Description (Make, Model)	Engine Size (HP)	Date of Manufacture	Provide Justification how 40CFR60 Subpart IIII is met.
N/A				☐ Met Emission Standard ☐ Certified Engine

40CFR60 Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Intern Combustion Engines)
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Subpart JJJJ sets forth nitrogen oxides (NOx), carbon monoxide (CO), and volatile organic compound (VOC) emission limits, fuel requirements, installation requirements, and monitoring requirements based on the year of installation of the subject internal combustion engine. The provisions for stationary spark ignition (SI) internal combustion engines for owners or operators of this Subpart have been included in General Permit G70-D, Section 13.

Emission Unit ID#	Engine Description (Make, Model)	Engine Size (HP)	Date of Manufacture	Provide Justification how 40CFR60 Subpart JJJJ is met.
N/A				☐ Met Emission Standard ☐ Certified Engine

40CFR60, Subpart OOOO (Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution)

EPA published its New Source Performance Standards (NSPS) and air toxics rules for the oil and gas sector on August 16, 2012. EPA published final amendments to the Subpart on September 23, 2013.

40CFR60 Subpart OOOO establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide (SO<sub>2</sub>) emissions from affected facilities that commence construction, modification or reconstruction after August 23, 2011. The affected sources which commence construction, modification or reconstruction after August 23, 2011 are subject to the applicable provisions of this Subpart as described below:

Gas well affected facilities are included in General Permit G70-D in Section 5.0.

Are there any applicable gas well affected facilities? 

Yes X No If Yes, list.

API number(s) for each Gas Well at this facility	Date the Gas Well was drilled or re-fractured
N/A	

Centrifugal compressor affected facilities are included in General Permit G70-D, Section 11.0. Are there any applicable centrifugal compressor affected facilities not located at the well site?

□ Yes X No

If Yes, list.

N/A	Engine Description (Make, Model)
	N/A

Each centrifugal compressor affected facility, which is a single centrifugal compressor using wet seals that is located between the wellhead and the point of custody transfer to the natural gas transmission and storage segment. A centrifugal compressor located at a well site, or an adjacent well site and servicing more than one well site, is not an affected facility under this Subpart.

Are there ar  ☐ Yes	ny applicable reciprocating ( X No	compressor aff	ected facilities not located at	the well site?
If Yes, list.	^ N0			
Engine De (Make, Mo				
" omicad and	cated at a well site, or an adjac-	The natural cae t	ngle reciprocating compressor lo ransmission and storage segment servicing more than one well sit	A
Pneumatic co	ntrollers affected facilities are y applicable pneumatic cont	<i>included in Gei</i> roller affected	neral Permit G70-D, Section 10. facilities?   Yes X No	
affected facilit	nd storage segment and not inc	IIICIno natural o	I and the point of custody transfe as processing plants), each pneun s-driven pneumatic controller op	andia
Determination	for storage vessel affected faci of storage vessel affected faci applicable storage vessel a	lity status is inc	ed in General Permit G70-D, Se luded in Section 6.0 of General I es?   Yes  X	ection 7.0. Permit G70-D.
If No, list any OOOO. N/A	emission reduction devices	s and control e	fficiencies used to avoid 40C	FR60 Subpart
If Yes, list.				
Emission	Storage Vessel	SV Sizo	Drovido Instift	10.577.60

Emission Unit ID#	Storage Vessel Description	SV Size (gal)	Provide Justification how 40CFR60 Subpart OOOO is met.
N/A		1 2	The part of the lifet.

Each storage vessel affected facility, which is a single storage vessel located in the oil and natural gas production segment, natural gas processing segment or natural gas transmission and storage segment, and has the potential for VOC emissions equal to or greater than 6 tpy as determined according to this section by October 15, 2013 for Group 1 storage vessels and by April 15, 2014, or 30 days after startup (whichever is later) for Group 2 storage vessels. A storage vessel affected facility that subsequently has its potential for VOC emissions decrease to less than 6 tpy shall remain an affected facility under this subpart.

This Subpart applies to owners and operators of each triethylene glycol (TEG) dehydration unit that are located at oil and natural gas production facilities. Only areas source requirements are included in General Permit G70-D, as defined in §63.761.

For area source applicability, the affected source includes each trietheylene glycol (TEG) dehydration unit located at a facility that meets the criteria specified in §63.760(a).

Glycol dehydration unit(s) are included in General Permit G70-D, Section 15.0.

orycor denydration unit(s) are included in General Permit G70-D, Section 15.0.
Are there any TEG dehydration unit(s) at this facility?   Yes X No
Are the TEG dehydration unit(s) located within an Urbanized Area (UA) or Urban Cluster (UC)?  ☐ Yes ☐ No
Are the glycol dehydration unit(s) exempt from 40CFR63 Section 764(d)?   Yes   No
If Yes, answer the following questions:
The actual annual average flowrate of natural gas to the glycol dehydration unit(s) is less than 85 thousand standard cubic meters per day, as determined by the procedures specified in $63.772(b)(1)$ of this Subpart. $\square$ Yes $\square$ No
The actual average emissions of benzene from the glycol dehydration unit process vent(s) to the atmosphere are less than 0.90 megagram per year (1 ton per year), as determined by the procedures specified in $\S63.772(b)(2)$ of this Subpart. $\square$ Yes $\square$ No

# 40CFR63 Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines)

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This Subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations. This section reflects EPA's final amendments to 40 CFR part 63, Subpart ZZZZ that were issued on January 15, 2013 and published in the Federal Register on January 30, 2013.

WVDEP DAQ has delegation of the area source air toxics provisions of this Subpart requiring Generally Achievable Control Technology (GACT). The provisions of this Subpart have been included in this general permit under Section 13.0.

Emission Unit ID#	Engine Description (Make, Model)	Engine Size (HP)	Date of Manufacture	New or Existing under 40CFR63 Subpart ZZZZ?	Provide Justification how 40CFR63 Subpart ZZZZ is met.
N/A					

Are there any engines that fall in the window of b	oeing new	under 40CFR60	R60 Subpart ZZZZ but manufactured before
the applicability date in 40CFR60 Subpart JJJJ?	□ Yes	X No	

If so, list the engines: N/A

SOURCE ACCRECATION DECEMBER.						
**SOURCE AGGREGATION DETERMINATION  "Building, structure, facility, or installation" is defined as all the pollutant emitting activities which belong to the same industrial grouping, are located on one or more contiguous and adjacent properties, and are under the control of the same person.						
Are there surrounding wells or compressor stations under "common control" of the applicant?  X Yes   No						
Are the properties in question located on "contiguous or adjacent" properties?  Yes X No						
Are there surrounding facilities that share the same two (2) digit SIC code?  X Yes   No						
Final Source Aggregation Decision.  Source not aggregated with any other source.  Source aggregated with another source. List Company/Facility Name:						
RECOMMENDATION TO DIRECTOR						
The information provided in the permit application, including all supplemental information received, indicates the applicant meets all the requirements of applicable regulations and the applicant has shown they meet the eligibility requirements of General Permit G70-D. Therefore, impact on the surrounding area should be minimized and it is recommended that the facility should be granted registration under General Permit G70-D.						
Permit Engineer Signature:  Name and Title: Roy F. Kees, P.E. Engineer, NSR Permitting  Date: March 10, 2016						